

STEP 16/01

Dart Aerospace Ltd.

Date: Monday, 1/7/2008 11:34:59 AM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : SHORT STEP ASSEMBLY  
 Job Number : 36601 -1 Part Number : D350591121  
 Estimate Number : 11672 Drawing Number : D2351 UNDER REVIEW  
 P.O. Number : This Issue : 1/7/2008 S.O. No. : Project Number : N/A  
 Prsht Rev. : NC Drawing Revision : E  
 First Issue : 1/1 Type : LARGE FAB ASSY Material :  
 Previous Run : 36238 Due Date : 1/16/2008 Qty: Um: Each  
 Written By :  
 Checked & Approved By :  
 Comment : Est Rev: E 02.10.21 Re-format; Incorporated D2351-041 IPP K  
 J/RF  
 est rev. F 06.02.23 added grinding EC

## Additional Product

Job Number:

Seq. #: Machine Or Operation: Description:

1.0 DC DOCUMENT CONTROL

Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-121

2.0 D2244116 Step Extrusion

Comment: Qty.: 0.5000 Each(s)/Unit Total: 2.5000 Each(s)

Pick:

Qty Part Number Description Batch

0.5 D2244-128 Extrusion

3.0 LARGE FAB 1 LARGE FABRICATION RESOURCE 1

Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

3-Deburr

4.0 BENDING BENDING MACHINE

Comment: BENDING MACHINE

Bend per Dwg D2351 using Bend Program D23561dD FT011

3.5 QCS  
 08.01.02

INSPECT TO CURRENT STEP

08/01/10

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
08/01/15	#90	split w/o for 2 parts at step #9.0	[Signature]	08/01/15	(x2)	[Signature] 10/01/23	[Signature] 10/01/23

Part No: D350-591-121 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: 36601		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08-01-10	4.0	2 parts scrap 1 too short, and 1 crushed in the border.	[Signature]	Scrap & destroy	SAD 08/01/10	[Signature]	[Signature]	[Signature]
			[Signature]	replace qty 2 B 33733	SAD 08/01/10	[Signature]	[Signature]	[Signature]

NOTE: Date & initial all entries

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36601

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/01/10 x 8

6.0

D28501

End Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2850-1 End Bracket

329848=5

331408=3

08.01.14 8

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033

A/R Aluminum Rod M105844

3-Do not Grind Flush

SAD 08.01.15 8

08.01.14 8  
08.01.14 8

8.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

08-01-15 (8)

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/01/15 (16)

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

SAD 08/01/17 (6)

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08/01/20 (6)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36601

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description:

12.0

D2582

Hi-Skid Step Leg Ass'y



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2582

Step Leg Assy

36710

SAD 08:01:20

POSITIVE RECALL

EFFECTIVE 08.01.07 AUTH RA

RELEASED RA DATE 08.01.20

ENSURED ENSURE D2582 MFG. I.H.W Rev B

13.0

MS20600AD4W3

Cherry Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total: 80.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

16 MS20600AD4W3 Rivet

M104715

SAD 08:01:20

6

14.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

SAD 08:01:20

6

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08-01-22 6

16.0

D267334

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2673-34 End Plate

D35887

08-01-22 6

17.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R

Aluminum Rod M105058

2-Grind end cap flush per dwg D2351

08-01-23 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 36601

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

10 08.01.23 (6)

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

10.01.23 (6)

20.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up Alodine

M-1

08/01/23

(6x)

21.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M 106 379

M-1 08/01/24

(6x)

22.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch: M 106 332

FL 08/01/24 (6)

23.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FL 08.1.25 (6)

24.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

25.0

D22301

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Packing Kit Qty Part Number Description Batch

1 D2230-1 Mounting Lug B33250

FL 08/01/24 (6)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36601

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

26.0

D22303

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2230-3 Mounting Lug 35800

27.0

D2856400

Abrasion-Strip



Comment: Qty.: 0.6000 f(s)/Unit Total : 3.0000 f(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2856-400 7.20" Abrasion Strip 35900

28.0

AN337A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 AN3-37A Bolt M124016 10X

M12327 2X

29.0

AN413A

Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total : 15.0000 Each(s)

AN4-13A

Batch: M106513

30.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 20.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

4 AN960JD10 Washer M106167

31.0

AN960JD416

Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total : 30.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

6 AN960JD416 Washer M105906

8/01/29 (6)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 36601

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 MS21042L3 Nut (or -3) M105558

33.0

MS21042L4

Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total : 15.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

3 MS21042L4 Nut (or -4) M105554

34.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

35.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-121

Location:

PPP Rev:

D

36.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



u 08.01.25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries



DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

**D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST**

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

\*cut per drawing

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WITHOUT NOTICE  
WORK ORDER  
NO. 36601

RELEASED  
05.11.28 #

UNDER REVIEW

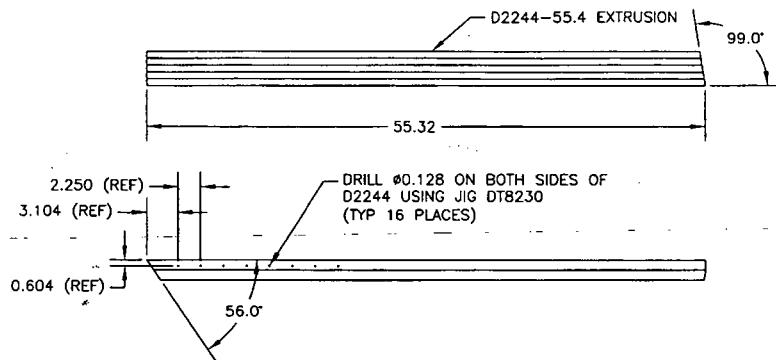
PH  
02-01-07

CF 124  
PER FILE # 263

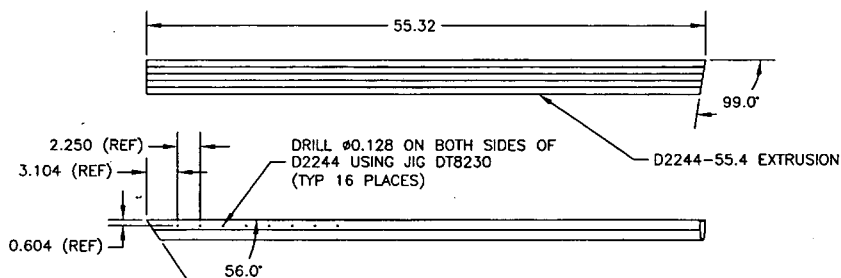
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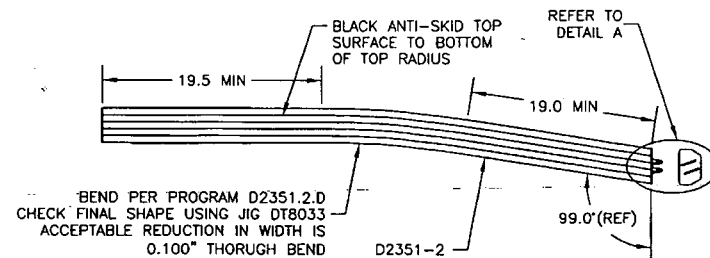
D2351-2 CUTTING/DRILLING DETAIL  
RIGHT STEP



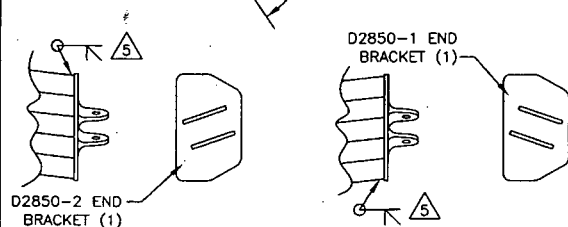
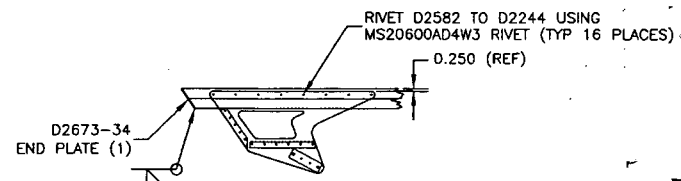
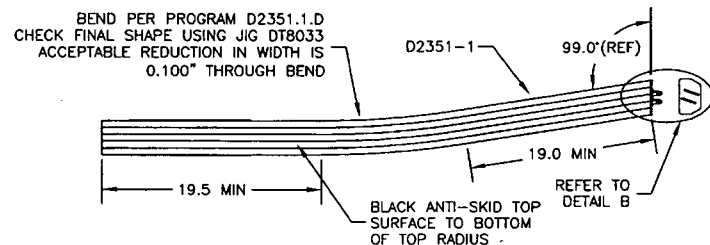
D2351-1 CUTTING/DRILLING DETAIL  
LEFT STEP



D2351-042 BENDING/ASSEMBLY DETAIL  
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL  
LEFT STEP



DETAIL A  
SCALE: 1:4

DETAIL B  
SCALE: 1:4

GENERAL NOTES

- 1) WELD PER DART QSI 004
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

CHAMFER D2244 EXTRUSION 0.075"x45° BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

RELEASED  
05.11.28

UNDER REVIEW

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DESIGN KE	DRAWN BY PH	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 2 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE 1:12

NO. 30001  
WORK ORDER  
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